

Міністерство освіти та науки України
Сумський державний університет
Медичний інституту



АКТУАЛЬНІ ПИТАННЯ ТЕОРЕТИЧНОЇ ТА ПРАКТИЧНОЇ МЕДИЦИНИ

Topical Issues of Clinical and Theoretical Medicine

Збірник тез доповідей
IV Міжнародної науково-практичної конференції
Студентів та молодих вчених
(Суми, 21-22 квітня 2016 року)

ТОМ 1

Суми
Сумський державний університет
2016

DETERMINATION OF BIOMARKERS P53 AND KI- 67 IN RATS` SPLEEN WHILE DEHYDRATION

Prykhodko O.O., PhD Assistant Professor¹,

Eliska Kubikova, Professor²,

Bumeister V.I., Professor¹.

Onisokien Bennibor Blessed¹, student, grp.519.

¹Sumy State University, Anatomy Department

²Comenius University in Slovakia

The spleen is one of the largest lymphoid organs, it is an organ of the circulatory system. The basic function of rats` spleen is similar to that of a man, which is to clean the blood from damaged old particles of the body itself. The rat`s spleen is equipped with the red and white pulp with a specific structure of blood circulation. Being affected by unfavourable factors, the spleen has a system of protective mechanisms, which are based on the processes of cell renewal and apoptosis. We analyzed the localization and quantification of the expression of apoptosis markers p53 and Ki-67 proliferation of the rats` spleen during cellular dehydration.

Outbred white laboratory rats with average weight of 210.0 grams were divided into 2 groups. The 1st group which consisted of 6 rats, was used as a control group. The 2nd group – experimental. 6 rats were in conditions of medium cellular dehydration, that was achieved within 20 days of the experiment (cellular moisture deficit was 5-10%). Rats were given 1.5% hypertonic salt solution, and as food - granulated mixed fodder. All animals were taken out of the experiment by decapitation under anesthesia. For immune morphological research we used immunoperoxidase method using primary specific monoclonal antibodies. «Thermo scientific» (USA) The results of immunohistochemical reactions were assessed with the help of quantitative morphometric method. We calculated the number of Ki-67-positive and p53-positive splenocytes per 1mm² of area unit of the spleen microscopic section.

The result of the research showed, that in the experimental group of rats number of P 53 increased twice and reached $2419,41 \pm 71,40$ cells per 1mm² of area of the spleen microscopic section, and the expression of Ki - 67 was $2829,12 \pm 112,20$ cells, which is 56% less of that of the control group.

Thus, the prevalence of apoptosis over proliferative apoptotic processes in the spleen indicates splenic hypofunction while average cell dehydration.

THE STUDY OF MORFOLOGICAL PROPERTIES OF THE ABDOMINAL AORTA CALCIFICATES BY THE MEANS OF SCANNING RASTER MICROSCOPY

P.V. Romanenko1, I.A. Forkert 1, E.V.Husak 1,2, O.S.Iarmolenko1, R.A. Moskalenko 1, S.M. Danilchenko 2

1. Sumy State University, Medical Institute

2. Institute of Applied Physics of National Academy of Sciences of Ukraine

Introduction. In normal condition calcium hydroxyapatite is present in the body as a component of bones. Metabolic disorders cause its deposition in the walls of vessels. Numerous studies confirm that calcification of the parts of cardiovascular system is actively regulated process that has much in common with the evolution and metabolism of bone tissue. However, significant differences in the conditions and mechanisms of formation of ectopic deposits make the task of its consistent study complex and ambiguous.

The aim of this study was to determine the morphological features of the calcificate deposits` structure by the means of raster scanning microscopy.

Materials and methods. Calcificates were obtained from 6 pieces of abdominal aortae annealed at temperature 400°C. Plates of calcificates were mechanically separated, weighed on analytical scales and divided into two series. The first consisted of annealed calcificates, the second - annealed and sonicated for 1 min. Samples of both series were attached to conductive surface and